What is claimed is:

- 1. A computer system having
- a plurality of storage volumes for storing data used in the computer system,
- one or more storage control units for controlling I/O 5 transfers of data in the computer system from and to the storage volumes,
- one or more application programs for execution in the computer system using data accessed from and to the storage volumes,
- one or more operating system programs for execution in the computer system for controlling the storage volumes, the one or more storage control units and the one or more application programs, and
- a data migration program for migrating data from one of said volumes designated as a source volume to one of said volumes designated a target volume while said one or more application programs are executing using data accessed from and to the storage volumes, said data 20 migration program including,
 - a main module to control the start of a migration session when said one or more application programs are using data accessed to and from the source volume, to migrate data from the source volume to 25 the target volume, and to end the migration session whereby said one or more application programs are using data accessed to and from the target volume,
 - a volume module to control said storage volumes during the migration session,
 - a copy module to control the copying of data from the source volume to the target volume during the migration session,
 - a monitor module for monitoring I/O transfers to the storage volumes during the migration session.

2. The computer system of claim 1 wherein said main module includes a communication data set for communications used for controlling data migration that is not stored on said source volume or said target volume.

3. The computer system of claim 1 wherein said main module establishes said migration session as a plurality of migration phases for controlling data migration.

- 4. The computer system of claim 1 wherein each of said one or more operating system programs includes an instance of said data migration program and said main module establishes one instance of said data migration program as a master instance and another instance of said data migration program as a slave whereby said migration session is controlled in a master slave relationship.
- 5. The computer system of claim 1 wherein said main module establishes said migration session as a plurality of migration phases including an activation phase, a copy phase, a refresh phase, a quiesce phase, a synchronize phase, a redirect phase, a resume phase and a termination phase.
- 6. The computer system of claim 1 wherein each of said one or more operating system programs includes an instance of said data migration program and said main module establishes a plurality of migration sessions for concurrent data migrations.
- 7. The computer system of claim 6 wherein for each of said data migration sessions each of said operating systems includes an instance of said data migration program and said main module establishes one instance of said data migration program as a master instance and another instance of said data migration program as a slave whereby each of said migration sessions is controlled in a master slave relationship.

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